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SEQUENCE LISTING

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<120> A Method for Accelerating the Rate of Mucociliary Clearance

<130> 98,736-A

<140> 09/441,966

<141> 1999-11-17

<150> 09/218,913

<151> 1998-12-22

<160> 71

<170> Microsoft Word 97

<210> 1

<211> 179

<212> PRT

<213> Homo sapien

<400> 1

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1				5					10					15	
Val	Gly	Arg	Cys	Arg	Ala	Ser	Met	Pro	Arg	Trp	Trp	Tyr	Asn	Val	Thr
			20					25					30		
Asp	Gly	Ser	Cys	Gln	Leu	Phe	Val	Tyr	Gly	Gly	Cys	Asp	Gly	Asn	Ser
		35					40					45			
Asn	Asn	Tyr	Leu	Thr	Lys	Glu	Glu	Cys	Leu	Lys	Lys	Cys	Ala	Thr	Val
		50				55					60				
Thr	Glu	Asn	Ala	Thr	Gly	Asp	Leu	Ala	Thr	Ser	Arg	Asn	Ala	Ala	Asp
65					70				75						80
Ser	Ser	Val	Pro	Ser	Ala	Pro	Arg	Arg	Gln	Asp	Ser	Glu	Asp	His	Ser
				85					90					95	
Ser	Asp	Met	Phe	Asn	Tyr	Glu	Glu	Tyr	Cys	Thr	Ala	Asn	Ala	Val	Thr
			100					105					110		
Gly	Pro	Cys	Arg	Ala	Ser	Phe	Pro	Arg	Trp	Tyr	Phe	Asp	Val	Glu	Arg
		115					120					125			
Asn	Ser	Cys	Asn	Asn	Phe	Ile	Tyr	Gly	Gly	Cys	Arg	Gly	Asn	Lys	Asn
		130				135					140				
Ser	Tyr	Arg	Ser	Glu	Glu	Ala	Cys	Met	Leu	Arg	Cys	Phe	Arg	Gln	Gln
145				150						155					160
Glu	Asn	Pro	Pro	Leu	Pro	Leu	Gly	Ser	Lys	Val	Val	Val	Leu	Ala	Gly
				165					170						175
Ala	Val	Ser													

<210> 2
 <211> 197
 <212> PRT
 <213> Homo sapien

<220>
 <221> sig_peptide
 <222> 1..18

<400> 2
 Ala Gly Ser Phe Leu Ala Trp Leu Gly Ser Leu Leu Leu Ser Gly Val
 1 5 10 15
 Leu Ala Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser
 20 25 30
 Lys Val Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn
 35 40 45
 Val Thr Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly
 50 55 60
 Asn Ser Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala
 65 70 75 80
 Thr Val Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala
 85 90 95
 Ala Asp Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp
 100 105 110
 His Ser Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala
 115 120 125
 Val Thr Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val
 130 135 140
 Glu Arg Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn
 145 150 155 160
 Lys Asn Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg
 165 170 175
 Gln Gln Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys Val Val Val Leu
 180 185 190
 Ala Gly Ala Val Ser
 195

<210> 3
 <211> 153
 <212> PRT
 <213> Homo sapien

<400> 3
 Ile His Asp Phe Cys Leu Val Ser Lys Val Val Gly Arg Cys Arg Ala
 1 5 10 15
 Ser Met Pro Arg Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln Leu
 20 25 30
 Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser Asn Asn Tyr Leu Thr Lys
 35 40 45

Glu Glu Cys Leu Lys Lys Cys Ala Thr Val Thr Glu Asn Ala Thr Gly
 50 55 60
 Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp Ser Ser Val Pro Ser Ala
 65 70 75 80
 Pro Arg Arg Gln Asp Ser Glu Asp His Ser Ser Asp Met Phe Asn Tyr
 85 90 95
 Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala Ser
 100 105 110
 Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn Phe
 115 120 125
 Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu Glu
 130 135 140
 Ala Cys Met Leu Arg Cys Phe Arg Gln
 145 150

<210> 4
 <211> 58
 <212> PRT
 <213> Homo sapien

<400> 4
 Ile His Asp Phe Cys Leu Val Ser Lys Val Val Gly Arg Cys Arg Ala
 1 5 10 15
 Ser Met Pro Arg Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln Leu
 20 25 30
 Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser Asn Asn Tyr Leu Thr Lys
 35 40 45
 Glu Glu Cys Leu Lys Lys Cys Ala Thr Val
 50 55

<210> 5
 <211> 51
 <212> PRT
 <213> Homo sapien

<400> 5
 Cys Leu Val Ser Lys Val Val Gly Arg Cys Arg Ala Ser Met Pro Arg
 1 5 10 15
 Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly
 20 25 30
 Gly Cys Asp Gly Asn Ser Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu
 35 40 45
 Lys Lys Cys
 50

<210> 6
 <211> 58
 <212> PRT
 <213> Homo sapien

<400> 6
 Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala
 1 5 10 15
 Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn
 20 25 30
 Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu
 35 40 45
 Glu Ala Cys Met Leu Arg Cys Phe Arg Gln
 50 55
 <210> 7
 <211> 51
 <212> PRT
 <213> Homo sapien
 <400> 7
 Cys Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala Ser Phe Pro Arg
 1 5 10 15
 Trp Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn Phe Ile Tyr Gly
 20 25 30
 Gly Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu Glu Ala Cys Met
 35 40 45
 Leu Arg Cys
 50
 <210> 8
 <211> 92
 <212> PRT
 <213> Homo sapien
 <400> 8
 Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser Lys Val
 1 5 10 15
 Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr
 20 25 30
 Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser
 35 40 45
 Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val
 50 55 60
 Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp
 65 70 75 80
 Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser
 85 90
 <210> 9
 <211> 708
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> 679..708

<223> /note= "n at positions 622, 679, 707 is any nucleic acid"

<400> 9

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ggccgggtcg tttctgcct ggtgggac gctgctctc tctggggtec tggcgccga      60
ccgagaacgc agcatccacg acttctgcct ggtgtcgaag gtgggtgggca gatgccgggc    120
ctccatgcct aggtgggtgt acaatgtcac tgacggatcc tgccagctgt ttgtgtatgg    180
gggctgtgac ggaaacagca ataattacct gaccaaggag gagtgcctca agaaatgtgc    240
cactgtcaca gagaatgcca cgggtgacct ggccaccagc aggaatgcag cggattcctc    300
tgtcccaagt gctcccagaa ggcaggattc tgaagaccac tccagcgata tgttcaacta    360
tgaagaatac tgcaccgcca acgcagtcac tgggccttgc cgtgcatcct tcccacgctg    420
gtactttgac gtggagagga actcctgcaa taacttcac tatggaggct gccggggcaa    480
taagaacagc taccgctctg aggaggcctg catgctccgc tgcttccgcc agcaggagaa    540
tcctcccctg ccccttggt caaaggtggt ggttctggcc ggggctgttt cgtgatggtg    600
ttgatccttt tcctggggag cntccatggt cttactgatt ccgggtggca aggaggaacc    660
aggagcgtgc cctgcgganc gtctggagct tcggagatga caagggnt                708
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<210> 10

<211> 235

<212> PRT

<213> Homo sapien

<220>

<221> peptide

<222> 1..235

<223> /note= "Xaa at positions 198, 201, 226, and 233 are unknown amino acids"

<400> 10

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Ala Gly Ser Phe Leu Ala Trp Leu Gly Ser Leu Leu Leu Ser Gly Val
1           5           10           15
Leu Ala Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser
20          25          30
Lys Val Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn
35          40          45
Val Thr Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly
50          55          60
Asn Ser Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala
65          70          75          80
Thr Val Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala
85          90          95
Ala Asp Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp
100         105         110
His Ser Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala
115        120        125
```

Val Thr Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val
 130 135 140
 Glu Arg Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn
 145 150 155 160
 Lys Asn Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg
 165 170 175
 Gln Gln Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys Val Val Val Leu
 180 185 190
 Ala Gly Ala Val Ser Xaa Trp Cys Xaa Ser Phe Ser Trp Gly Ala Ser
 195 200 205
 Met Val Leu Leu Ile Pro Gly Gly Lys Glu Glu Pro Gly Ala Cys Pro
 210 215 220
 Ala Xaa Arg Leu Glu Leu Arg Arg Xaa Gln Gly
 225 230 235
 <210> 11
 <211> 179
 <212> PRT
 <213> Homo sapien
 <220>
 <221> peptide
 <222> 1..170
 <223> /note= "Xaa at positions 8, 17, 19, 21-26, 40, 42, 45-47, 52, 64,
 103, 112, 114, 116-121, 135, 137, 140-142, 147, and 159 is any
 amino acid residue"
 <400> 11
 Ala Asp Arg Glu Arg Ser Ile Xaa Asp Phe Cys Leu Val Ser Lys Val
 1 5 10 15
 Xaa Gly Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Trp Trp Tyr Asn Val Thr
 20 25 30
 Asp Gly Ser Cys Gln Leu Phe Xaa Tyr Xaa Gly Cys Xaa Xaa Xaa Ser
 35 40 45
 Asn Asn Tyr Xaa Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Xaa
 50 55 60
 Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp
 65 70 75 80
 Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp His Ser
 85 90 95
 Ser Asp Met Phe Asn Tyr Xaa Glu Tyr Cys Thr Ala Asn Ala Val Xaa
 100 105 110
 Gly Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Trp Tyr Phe Asp Val Glu Arg
 115 120 125
 Asn Ser Cys Asn Asn Phe Xaa Tyr Xaa Gly Cys Xaa Xaa Xaa Lys Asn
 130 135 140
 Ser Tyr Xaa Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg Xaa Gln
 145 150 155 160

Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys Val Val Val Leu Ala Gly
165 170 175

Ala Val Ser

<210> 12
<211> 393
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> 390..391
<223> /note= "residue 361 is any nucleic acid"

<220>
<221> misc_feature
<222> 390..391
<223> /note= "residue 367 is any nucleic acid"

<220>
<221> misc_feature
<222> 384..385
<223> /note= "residue 384 is any nucleic acid"

<220>
<221> misc_feature
<222> 367..368
<223> /note= "residue 390 is any nucleic acid"

<400> 12
ggccgggtcg tttctgcct ggctgggac gctgctcctc tctggggtcc tggccggccg 60
accgagaacg cagcatccac gacttctgcc tgggtgtcgaa ggtggtgggc agattccggg 120
cctccatgcc taggtggtgg tacaatgtca ctgacggatc ctgccagctg tttgtgtatg 180
ggggctgtga cggaacacg aataattacc tgaccaagga ggagtgcctc aagaaatgtg 240
ccactgtcac agagaatgcc acgggtgacc tggccaccag caggaatgca gcggattcct 300
ctgtcccaag tgctcccaga aggcaggatt cttgaagacc acttcagcga tatgtttcaa 360
ntattgnaag aataattgca ccgnaacgn att 393

<210> 13
<211> 130
<212> PRT
<213> Homo sapien

<220>
<221> Region
<222> 1..18
<223> /label= signal peptide

<220>
<221> Peptide
<222> 111..130
<223> /note= "Xaa at positions 111, 120, 122, 128, and 130 represents a nonsense or stop codon"

<400> 13

Pro Gly Arg Phe Ser Pro Gly Trp Asp Arg Cys Ser Ser Leu Gly Ser
 1 5 10 15
 Trp Pro Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser
 20 25 30
 Lys Val Val Gly Arg Glu Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn
 35 40 45
 Val Thr Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly
 50 55 60
 Asn Ser Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala
 65 70 75 80
 Thr Val Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala
 85 90 95
 Ala Asp Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Xaa Arg
 100 105 110
 Pro Leu Gln Arg Tyr Val Ser Xaa Ile Xaa Arg Ile Ile Ala Pro Xaa
 115 120 125
 Thr Xaa
 130

<210> 14
 <211> 511
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> 425..510
 <223> /note= "n at positions 425, 482, and 510 is any nucleic acid"

<400> 14
 gcaataatta cctgaccaag gaggagtgcc tcaagaaatg tgccactgtc acagagaatg 60
 ccacgggtga cctggccacc agcaggaatg cagcggattc ctctgtccca agtgctccca 120
 gaaggcagga ttctgaagac cactccagcg atatgttcaa ctatgaagaa tactgcaccg 180
 ccaacgcagt cactgggcct tgccgtgcat ccttcccacg ctggtacttt gacgtggaga 240
 ggaactcctg caataacttc atctatggag gctgccgggg caataagaac agctaccgct 300
 ctgaggaggc ctgcatgctc cgctgcttcc gccagcagga gaatcctccc ctgccccttg 360
 gctcaaaggt ggtggttctg gccggggctg tttcgtgatg gtgttgatcc ttttcctggg 420
 gagcntccat ggtcttactg attccgggtg gcaaggagga accaggagcg tgccctgcgg 480
 ancgtctgga gcttcggaga tgacaagggn t 511

<210> 15
 <211> 169
 <212> PRT
 <213> Homo sapien

<220>
 <221> peptide

<222> 1..169
 <223> /note= "Xaa at positions 2, 23, 132, 160, and 167 represent a nonsense or stop codon"

<400> 15
 Gln Xaa Leu Pro Asp Gln Gly Gly Val Pro Gln Glu Met Cys His Cys
 1 5 10 15
 His Arg Glu Cys His Gly Xaa Pro Gly His Gln Gln Glu Cys Ser Gly
 20 25 30
 Phe Leu Cys Pro Lys Ser Pro Arg Arg Gln Asp Ser Glu Asp His Ser
 35 40 45
 Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr
 50 55 60
 Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg
 65 70 75 80
 Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn
 85 90 95
 Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg Gln Gln
 100 105 110
 Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys Val Val Val Leu Ala Gly
 115 120 125
 Ala Val Ser Xaa Trp Cys Xaa Ser Phe Ser Trp Gly Ala Ser Met Val
 130 135 140
 Leu Leu Ile Pro Gly Gly Lys Glu Glu Pro Gly Ala Cys Pro Ala Xaa
 145 150 155 160
 Arg Leu Glu Leu Arg Arg Xaa Gln Gly
 165

<210> 16
 <211> 431
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> 1..430
 <223> /note= "n at positions 3, 11, 12, 17, 51 and 429 represent any nucleic acid"

<400> 16
 gcngcgcgtt nntcgcntgc tgggatcgct gctgcacctc tctggggctc nggcggccga 60
 ccgagaacgc agcatccacg acttctgcct ggtgtcgaag gtggtgggca gatgccgggc 120
 ctccatgcct aggtggtggt acaatgtcac tgacggatcc tgccagctgt ttgtgtatgg 180
 gggctgtgac ggaaacagca ataattacct gaccaaggag gagtgcctca agaaatgtgc 240
 cactgtcaca gagaatgcca cgggtgacct ggccaccagc aggaatgcag cggattcctc 300
 tgtcccaagt gctcccagaa ggcaggattc ttgaagacca cttcagcgat atgttcaact 360
 atgaagaata ctggcaccgc caacgcattc actgggcctg cgtgcatcct tcccacgctg 420

gtactttgnc g 431

<210> 17
 <211> 424
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> 1..424
 <223> /note= "n at positions 6, 310 and 408 represent any nucleic acid"

<400> 17
 tgggantcgc tgctcctctc tggggtcctg gcggccgacc gagaacgcag catccacgac 60
 ttctgcctgg tgtcgaaggt ggtgggcaga tgccgggcct ccatgcctag gtggtggtac 120
 aatgtcactg acggatcctg ccagctgttt gtgtatgggg gctgtgacgg aaacagcaat 180
 aattacctga ccaaggagga gtgcctcaag aaatgtgcca ctgtcacaga gaatgccacg 240
 ggtgacctgg ccaccagcag gaatgcagcg gattcctctg tcccaagtgc tcccagaagg 300
 caggattctn gaagaccact ccagcgatat gttcaactat gaagaatact gcaccgccaa 360
 cgcagtcact gggccttgcg tggaatcctt tcccacgctg gnaatttnga cgttgagaag 420
 gaac 424

<210> 18
 <211> 57
 <212> PRT
 <213> Unknown

<220>
 <221>
 <222>
 <223> /note= "Tissue factor pathway inhibitor precursor 1"

<400> 18
 His Ser Phe Cys Ala Phe Lys Ala Asp Asp Gly Pro Cys Lys Ala Ile
 1 5 10 15
 Met Lys Arg Phe Phe Phe Asn Ile Phe Thr Arg Gln Cys Glu Glu Phe
 20 25 30
 Ile Tyr Gly Gly Cys Glu Gly Asn Gln Asn Arg Phe Glu Ser Leu Glu
 35 40 45
 Glu Cys Lys Lys Met Cys Thr Arg Asp
 50 55

<210> 19
 <211> 57
 <212> PRT
 <213> Unknown

<220>
 <223> /note= "Tissue factor pathway inhibitor precursor 1"

<400> 19
 Pro Asp Phe Cys Phe Leu Glu Glu Asp Pro Gly Ile Cys Arg Gly Tyr

1 5 10 15
 Val Thr Arg Tyr Tyr Phe Asn Pro Arg Tyr Arg Thr Cys Asp Ala Phe
 20 25 30
 Thr Tyr Thr Gly Cys Gly Asn Asn Asp Asn Asn Phe Val Ser Arg Glu
 35 40 45
 Asp Ser Lys Arg Ala Cys Ala Lys Ala
 50 55

 <210> 23
 <211> 57
 <212> PRT
 <213> Unknown

 <220>
 <223> /note= "Amyloid Precursor Protein homologue"

 <400> 23
 Lys Ala Val Cys Ser Gln Glu Ala Met Thr Gly Pro Cys Arg Ala Val
 1 5 10 15
 Met Pro Arg Thr Thr Phe Asp Leu Ser Lys Gly Lys Cys Val Arg Phe
 20 25 30
 Ile Thr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Glu Ser Glu Asp
 35 40 45
 Tyr Cys Met Ala Val Cys Lys Ala Met
 50 55

 <210> 24
 <211> 58
 <212> PRT
 <213> Unknown

 <220>
 <223> /note= "Aprotinin"

 <400> 24
 Arg Pro Asp Phe Cys Leu Glu Pro Pro Tyr Thr Gly Pro Cys Lys Ala
 1 5 10 15
 Arg Ile Ile Arg Tyr Phe Tyr Asn Ala Lys Ala Gly Leu Cys Gln Thr
 20 25 30
 Phe Val Tyr Gly Gly Cys Arg Ala Lys Arg Asn Asn Phe Lys Ser Ala
 35 40 45
 Glu Asp Cys Met Arg Thr Cys Gly Gly Ala
 50 55

 <210> 25
 <211> 51
 <212> PRT
 <213> Unknown

 <220>
 <223> /note= "Inter alpha-trypsin inhibitor precursor"

 <400> 25
 Cys Gln Leu Gly Tyr Ser Ala Gly Pro Cys Met Gly Met Thr Ser Arg


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1             5             10             15
Trp Tyr Tyr Asp Pro Asn Thr Lys Ser Cys Ala Arg Phe Trp Tyr Gly
      20             25             30
Gly Cys Gly Gly Asn Glu Asn Lys Phe Gly Ser Gln Lys Glu Cys Glu
      35             40             45
Lys Val Cys
      50

<210> 29
<211> 57
<212> PRT
<213> Unknown

<220>
<223> /note= "HKI-B9"

<400> 29
Pro Asn Val Cys Ala Phe Pro Met Glu Lys Gly Pro Cys Gln Thr Tyr
1             5             10             15
Met Thr Arg Trp Phe Phe Asn Phe Glu Thr Gly Glu Cys Glu Leu Phe
      20             25             30
Ala Tyr Gly Gly Cys Gly Gly Asn Ser Asn Asn Phe Leu Arg Lys Glu
      35             40             45
Lys Cys Glu Lys Phe Cys Lys Phe Thr
      50             55

<210> 30
<211> 46
<212> DNA
<213> S. cerevisiae

<400> 30
gccaaagcttg gataaaagat atgaagaata ctgcaccgcc aacgca
                                         46

<210> 31
<211> 35
<212> DNA
<213> S. cerevisiae

<400> 31
ggggatcctc actgctggcg gaagcagcgg agcat
                                         35

<210> 32
<211> 206
<212> DNA
<213> Homo sapien

<220>
<223> /note= "cDNA of human Bikunin protein fragment"

<400> 32
ccaagcttgg ataaaagata tgaagaatac tgcaccgcca acgcagtcac tgggccttgc
                                         60
cgtgcatcct tcccacgctg gtactttgac gtggagagga actcctgcaa taacttcac
                                         120
tatggaggct gccggggcaa taagaacagc taccgctctg aggaggcctg catgctccgc
                                         180

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tgcttccgcc agcagtgagg atcccc	206
<210> 33	
<211> 28	
<212> DNA	
<213> Homo sapien	
<400> 33	
cgaagcttca tctccgaagc tccagacg	28
<210> 34	
<211> 31	
<212> DNA	
<213> Homo sapien	
<400> 34	
aggatctaga caataattac ctgaccaagg a	31
<210> 35	
<211> 36	
<212> DNA	
<213> Homo sapien	
<400> 35	
ggtctagagg ccgggtcgtt tctcgctgg ctggga	36
<210> 36	
<211> 19	
<212> DNA	
<213> Homo sapien	
<400> 36	
cacctgatcg cgagacccc	19
<210> 37	
<211> 19	
<212> DNA	
<213> Homo sapien	
<400> 37	
gatttaggtg acactatag	19
<210> 38	
<211> 20	
<212> DNA	
<213> Homo sapien	
<400> 38	
taatacgact cactataggg	20
<210> 39	
<211> 22	
<212> DNA	
<213> Homo sapien	
<400> 39	
ttacctgacc aaggaggagt gc	22
<210> 40	
<211> 23	
<212> DNA	
<213> Homo sapien	

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<400> 40
aatccgctgc attcctgctg gtg
23

<210> 41
<211> 20
<212> DNA
<213> Homo sapien

<400> 41
cagtcactgg gccttgccgt
20

<210> 42
<211> 105
<212> DNA
<213> Homo sapien

<400> 42
gaaggggtaa gcttggataa aagatatgaa gaatactgca ccgccaacgc agtcactggg
60
ccttgccgtg catccttccc acgctggtac tttgacgtgg agagg
105

<210> 43
<211> 129
<212> DNA
<213> Homo sapien

<400> 43
cgcggatccc tactggcgga agcagcggag catgcaggcc tcctcagagc ggtagctgtt
60
cttattgccc cggcagcctc catagatgaa gttattgcag gagttcctct ccacgtcaaa
120
gtaccagcg
129

<210> 44
<211> 207
<212> DNA
<213> Homo sapien

<400> 44
gaaggggtaa gcttggataa aagatatgaa gaatactgca ccgccaacgc agtcactggg
60
ccttgccgtg catccttccc acgctggtac tttgacgtgg agaggaaactc ctgcaataac
120
ttcatctatg gaggctgccg gggcaataag aacagctacc gctctgagga ggctgcatg
180
ctccgctgct tccgccagta gggatcc
207

<210> 45
<211> 248
<212> PRT
<213> Homo sapien

<220>
<221> Region
<222> 1..18
<223> /label= signal peptide

<400> 45
Met Leu Arg Ala Glu Ala Asp Gly Val Ser Arg Leu Leu Gly Ser Leu
1 5 10 15
Leu Leu Ser Gly Val Leu Ala Ala Asp Arg Glu Arg Ser Ile His Asp
20 25 30

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Phe Cys Leu Val Ser Lys Val Val Gly Arg Cys Arg Ala Ser Met Pro
 35 40 45
 Arg Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln Leu Phe Val Tyr
 50 55 60
 Gly Gly Cys Asp Gly Asn Ser Asn Asn Tyr Leu Thr Lys Glu Glu Cys
 65 70 75 80
 Leu Lys Lys Cys Ala Thr Val Thr Glu Asn Ala Thr Gly Asp Leu Ala
 85 90 95
 Thr Ser Arg Asn Ala Ala Asp Ser Ser Val Pro Ser Ala Pro Arg Arg
 100 105 110
 Gln Asp Ser Glu Asp His Ser Ser Asp Met Phe Asn Tyr Glu Glu Tyr
 115 120 125
 Cys Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala Ser Phe Pro Arg
 130 135 140
 Trp Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn Phe Ile Tyr Gly
 145 150 155 160
 Gly Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu Glu Ala Cys Met
 165 170 175
 Leu Arg Cys Phe Arg Gln Gln Glu Asn Pro Pro Leu Pro Leu Gly Ser
 180 185 190
 Lys Val Val Val Leu Ala Gly Leu Phe Val Met Val Leu Ile Leu Phe
 195 200 205
 Leu Gly Ala Ser Met Val Tyr Leu Ile Arg Val Ala Arg Arg Asn Gln
 210 215 220
 Glu Arg Ala Leu Arg Thr Val Trp Ser Ser Gly Asp Asp Lys Glu Gln
 225 230 235 240
 Leu Val Lys Asn Thr Tyr Val Leu
 245

<210> 46
 <211> 213
 <212> PRT
 <213> Homo sapien

<400> 46
 Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser Lys Val
 1 5 10 15
 Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr
 20 25 30
 Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser
 35 40 45
 Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val
 50 55 60
 Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp
 65 70 75 80

Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala
 130 135 140
 Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn
 145 150 155 160
 Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu
 165 170 175
 Glu Ala Cys Met Leu Arg Cys Phe Arg Gln Gln Glu Asn Pro Pro Leu
 180 185 190
 Pro Leu Gly Ser Lys Val Val Val Leu Ala Gly Leu Phe Val Met Val
 195 200 205
 Leu Ile Leu Phe Leu Gly Ala Ser Met Val Tyr Leu Ile Arg Val Ala
 210 215 220
 Arg Arg Asn Gln Glu Arg Ala Leu Arg Thr Val Trp Ser Phe Gly Asp
 225 230 235 240
 <210> 48
 <211> 225
 <212> PRT
 <213> Homo sapiens
 <400> 48
 Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser Lys Val
 1 5 10 15
 Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr
 20 25 30
 Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser
 35 40 45
 Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val
 50 55 60
 Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp
 65 70 75 80
 Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp His Ser
 85 90 95
 Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr
 100 105 110
 Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg
 115 120 125
 Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn
 130 135 140
 Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg Gln Gln
 145 150 155 160
 Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys Val Val Val Leu Ala Gly
 165 170 175
 Leu Phe Val Met Val Leu Ile Leu Phe Leu Gly Ala Ser Met Val Tyr
 180 185 190

Leu Ile Arg Val Ala Arg Arg Asn Gln Glu Arg Ala Leu Arg Thr Val
 195 200 205
 Trp Ser Ser Gly Asp Asp Lys Glu Gln Leu Val Lys Asn Thr Tyr Val
 210 215 220

 Leu
 225

 <210> 49
 <211> 252
 <212> PRT
 <213> Homo sapien

 <220>
 <221> Region
 <222> 1..18
 <223> /label= signal peptide

 <400> 49
 Met Ala Gln Leu Cys Gly Leu Arg Arg Ser Arg Ala Phe Leu Ala Leu
 1 5 10 15
 Leu Gly Ser Leu Leu Leu Ser Gly Val Leu Ala Ala Asp Arg Glu Arg
 20 25 30
 Ser Ile His Asp Phe Cys Leu Val Ser Lys Val Val Gly Arg Cys Arg
 35 40 45
 Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln
 50 55 60
 Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser Asn Asn Tyr Leu Thr
 65 70 75 80
 Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val Thr Glu Asn Ala Thr
 85 90 95
 Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp Ser Ser Val Pro Ser
 100 105 110
 Ala Pro Arg Arg Gln Asp Ser Glu Asp His Ser Ser Asp Met Phe Asn
 115 120 125
 Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala
 130 135 140
 Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn
 145 150 155 160
 Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu
 165 170 175
 Glu Ala Cys Met Leu Arg Cys Phe Arg Gln Gln Glu Asn Pro Pro Leu
 180 185 190
 Pro Leu Gly Ser Lys Val Val Val Leu Ala Gly Leu Phe Val Met Val
 195 200 205
 Leu Ile Leu Phe Leu Gly Ala Ser Met Val Tyr Leu Ile Arg Val Ala
 210 215 220
 Arg Arg Asn Gln Glu Arg Ala Leu Arg Thr Val Trp Ser Ser Gly Asp

50 55 60
 Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp
 65 70 75 80
 Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp His Ser
 85 90 95
 Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr
 100 105 110
 Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg
 115 120 125
 Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn
 130 135 140
 Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg Gln Gln
 145 150 155 160
 Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys
 165 170

 <210> 52
 <211> 170
 <212> PRT
 <213> Homo sapien

 <220>
 <223> /note= "Human Bikunin protein fragment"

 <400> 52
 Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser Lys Val
 1 5 10 15
 Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr
 20 25 30
 Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser
 35 40 45
 Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val
 50 55 60
 Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp
 65 70 75 80
 Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp His Ser
 85 90 95
 Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr
 100 105 110
 Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg
 115 120 125
 Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn
 130 135 140
 Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg Gln Gln
 145 150 155 160
 Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys

165 170

<210> 53
 <211> 27
 <212> PRT
 <213> Homo sapien

<220>
 <223> /note= "Signal peptide of Human Bikunin protein"

<400> 53
 Met Ala Gln Leu Cys Gly Leu Arg Arg Ser Arg Ala Phe Leu Ala Leu
 1 5 10 15
 Leu Gly Ser Leu Leu Ser Gly Val Leu Ala
 20 25

<210> 54
 <211> 23
 <212> PRT
 <213> Homo sapien

<220>
 <223> Human Bikunin protein fragment

<400> 54
 Met Leu Arg Ala Glu Ala Asp Gly Asn Ser Arg Leu Leu Gly Ser Leu
 1 5 10 15
 Leu Leu Ser Gly Val Leu Ala
 20

<210> 55
 <211> 102
 <212> DNA
 <213> Artificial sequence

<220>
 <223> /note= "Oligomer for preparing expression construct"

<400> 55
 gaaggggtaa gcttgataa aagagaagaa tactgtactg ctaatgctgt tactgggtcca 60
 tgtagagctt cttttccaag atggtacttt gatgttgaaa ga 102

<210> 56
 <211> 129
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Oligomer for preparing expression construct

<400> 56
 actggatcct cattggcgaa aacatctcaa catacaggct tcttcagatc tgtaagaatt 60
 tttattacct ctacaaccac cgtaaataaa attattacaa gaatttcttt caacatcaaa 120
 gtaccatct 129

<210> 57
 <211> 108
 <212> DNA

<213> Artificial sequence

<220>
 <223> /note= "Oligomer for preparing expression construct"

<400> 57
 gaaggggtaa gcttggataa aagaaattac gaagaatact gtactgctaa tgctgttact 60
 ggtccatgta gagcttcttt tccaagatgg tactttgatg ttgaaaga 108

<210> 58
 <211> 117
 <212> DNA
 <213> Artificial sequence

<220>
 <223> /note= "Oligomer for preparing expression construct"

<400> 58
 gaaggggtaa gcttggataa aagagatatg tttaattacg aagaatactg tactgctaata 60
 gctgttactg gtccatgtag agcttctttt ccaagatggg actttgatgt tgaaaga 117

<210> 59
 <211> 20
 <212> DNA
 <213> Homo sapiens

<400> 59
 cacctgatcg cgaagacccc 20

<210> 60
 <211> 23
 <212> DNA
 <213> Homo sapiens

<400> 60
 ctggcggaag cagcggagca tgc 23

<210> 61
 <211> 45
 <212> DNA
 <213> Artificial sequence

<220>
 <223> /note= "Oligomer for preparing Bikunin expression construct"

<400> 61
 cgcgctctcgg ctgacctggc cctgcagatg gcgcacgtgt gcggg 45

<210> 62
 <211> 60
 <212> DNA
 <213> Artificial sequence

<220>
 <223> /note= "Oligomer for preparing Bikunin construct"

<400> 62
 ctgccccttg gctcaaagta ggaagatctt cccccgggg ggggtggttct ggcggggctg 60

<210> 63
 <211> 14
 <212> PRT

<213> Homo sapien

<220>

<223> /note= "Human Bikunin protein fragment"

<400> 63

Leu Arg Cys Phe Arg Gln Gln Glu Asn Pro Pro Pro Leu Gly
1 5 10

<210> 64

<211> 20

<212> PRT

<213> Homo sapien

<220>

<223> /note= "Human Bikunin protein fragment"

<400> 64

Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser Lys Val
1 5 10 15

Val Gly Arg Cys
20

<210> 65

<211> 20

<212> PRT

<213> Homo sapien

<220>

<223> /note= "Human Bikunin protein fragment"

<400> 65

Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr Gly Pro Cys
1 5 10 15

Arg Ala Ser Phe
20

<210> 66

<211> 10

<212> PRT

<213> Homo sapien

<220>

<223> /note= "Human Bikunin protein fragment"

<400> 66

Pro Tyr Val Asp Gly Ser Gln Phe Tyr Gly
1 5 10

<210> 67

<211> 55

<212> PRT

<213> Homo sapien

<220>

<223> /note= "Human Bikunin protein fragment"

<400> 67

Val Val Val Leu Ala Gly Leu Phe Val Met Val Leu Ile Leu Phe Leu
1 5 10 15

Gly Ala Ser Met Val Tyr Leu Ile Arg Val Ala Arg Arg Asn Gln Glu
20 25 30
Arg Ala Leu Arg Thr Val Trp Ser Ser Gly Asp Asp Lys Glu Gln Leu
35 40 45
Val Lys Asn Thr Tyr Val Leu
50 55

<210> 68
<211> 43
<212> PRT
<213> Homo sapien

<220>
<223> /note= "Human Bikunin protein fragment"

<400> 68
Val Val Val Leu Ala Gly Leu Phe Val Met Val Leu Ile Leu Phe Leu
1 5 10 15
Gly Ala Ser Met Val Tyr Leu Ile Arg Val Ala Arg Arg Asn Gln Glu
20 25 30
Arg Ala Leu Arg Thr Val Trp Ser Phe Gly Asp
35 40

<210> 69
<211> 55
<212> PRT
<213> Homo sapien

<220>
<223> /note= "Human Bikunin protein fragment"

<400> 69
Val Val Val Leu Ala Gly Leu Phe Val Met Val Leu Ile Leu Phe Leu
1 5 10 15
Gly Ala Ser Met Val Tyr Leu Ile Arg Val Ala Arg Arg Asn Gln Glu
20 25 30
Arg Ala Leu Arg Thr Val Trp Ser Ser Gly Asp Asp Lys Glu Gln Leu
35 40 45

Val Lys Asn Thr Tyr Val Leu
50 55

<210> 70
<211> 213
<212> PRT
<213> Homo sapien

<220>
<223> /note= "Human Bikunin protein fragment"

<400> 70
Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser Lys Val
1 5 10 15
Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr
20 25 30

Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser
 35 40 45
 Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val
 50 55 60
 Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp
 65 70 75 80
 Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp His Ser
 85 90 95
 Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr
 100 105 110
 Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg
 115 120 125
 Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn
 130 135 140
 Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg Gln Gln
 145 150 155 160
 Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys Val Val Val Leu Ala Gly
 165 170 175
 Leu Phe Val Met Val Leu Ile Leu Phe Leu Gly Ala Ser Met Val Tyr
 180 185 190
 Leu Ile Arg Val Ala Arg Arg Asn Gln Glu Arg Ala Leu Arg Thr Val
 195 200 205
 Trp Ser Phe Gly Asp
 210

<210> 71
 <211> 225
 <212> PRT
 <213> Homo sapien

<220>
 <223> /note= "Human Bikunin protein fragment"

<400> 71
 Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser Lys Val
 1 5 10 15
 Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr
 20 25 30
 Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser
 35 40 45
 Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val
 50 55 60
 Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp
 65 70 75 80
 Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp His Ser
 85 90 95

Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr
 100 105 110
 Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg
 115 120 125
 Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn
 130 135 140
 Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg Gln Gln
 145 150 155 160
 Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys Val Val Val Leu Ala Gly
 165 170 175
 Leu Phe Val Met Val Leu Ile Leu Phe Leu Gly Ala Ser Met Val Tyr
 180 185 190
 Leu Ile Arg Val Ala Arg Arg Asn Gln Glu Arg Ala Leu Arg Thr Val
 195 200 205
 Trp Ser Ser Gly Asp Asp Lys Glu Gln Leu Val Lys Asn Thr Tyr Val
 210 215 220
 Leu
 225